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Heiko Schulz-Andres

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Davidson, Davidson & Kappel, LLC
485 7th Avenue
14th Floor
New York, NY 10018

EXAMINER

BOBISH, CHRISTOPHER S

ART UNIT

PAPER NUMBER

3746

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/557,513	Applicant(s) SCHULZ-ANDRES, HEIKO	
	Examiner CHRISTOPHER BOBISH	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/21/2005</u> . | 6) <input checked="" type="checkbox"/> Other: <u>machine translation of Fench patent 2660221</u> . |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 28 recites the limitation "the outlet openings" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21-25, 27, 41 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Brandstadter (French Patent FR 2660221, herein 2660').

A machine translated copy of the 2660' disclosure is used in the rejection and is provided with the office action.

2660' teaches:

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limitations from claim 21, a pump comprising: a rotor (11) having vanes (17, 18) movable at least radially, the vanes having vane heads (see FIG. 2), the vanes and rotor defining a rotatable group; a sheet metal pot (6), the sheet metal pot defining a stroke profile (inside surface of the pot 6, see FIG. 2), the vane heads sliding tightly along the stroke profile, and the sheet metal pot also forming a first axial lateral plate (bottom of the pot) for the rotatable group; and an axial lateral lid (8) for the rotatable group opposite the first axial lateral plate;

limitations from claim 22, the pump as recited in claim 21 wherein the sheet metal pot is a deep drawn metal pot (Page 1 paragraph 5 of the translated disclosure);

limitations from claim 23, the pump as recited in claim 21 wherein the axial lateral lid (8) is a second axial lateral plate formed by a sheet metal;

limitations from claim 24, the pump as recited in claim 23 wherein the axial lateral lid has an impressed shoulder (a shoulder is formed between housing portion 7 and 8, see FIG. 1) with an outside profile in the shape of the stroke profile (the stroke profile as can be seen in FIG. 2 is circular, the outside profile of the shoulder formed between portions 7 and 8 is also circular);

limitations from claim 25, the pump as recited in claim 23 wherein the axial lateral lid is a precision blanked or fine-edge blanked lateral lid (the limitation that the lid be formed as a precision of fine-edge blank is a product by process limitation, and since the method of forming the device is not germane to the issue of patentability of the device itself this limitation has not been given patentable weight.);

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limitations from claim 27, The pump as recited in claim 21 wherein the sheet metal pot includes outlet openings, the outlet openings including axial openings (15);

limitations from claim 41, the pump as recited in claim 21 wherein the axial lateral lid has impressed pressure pockets (the pockets leading to the inlet and outlet);

limitations from claim 43, wherein the pump includes an intake (16) and an outlet (15) for lubricating oil of an internal combustion engine (with regards to the use of the pump for lubricating an engine, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.);

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21, 26, 28-30 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagerty (US Patent No. 940,246) in view of Breuer et al (US PGPub No. 2001/0012486 A1).

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Hagerty teaches:

limitations from claim 21, a pump comprising: a rotor (2) having vanes (4) movable at least radially, the vanes having vane heads (5), the vanes and rotor defining a rotatable group; a pot (A), the pot defining a stroke profile, the vane heads sliding tightly along the stroke profile (Page 1 Lines 44-46), and the sheet metal pot also forming a first axial lateral plate (bottom of the pot) for the rotatable group; and an axial lateral lid (see FIG. 2, the lid through which bolts 17 are inserted) for the rotatable group opposite the first axial lateral plate;

Hagerty does not explicitly teach a material to be used in forming the housing parts, but Breuer teaches that forming rotary pump housing by deep drawing sheet metal can produce a lighter pump.

It would have been obvious to one having ordinary skill in the art of pumps at the time of the invention to form the housing of the pump taught by Hagerty by sheet metal as taught by Breuer to create a lighter and possibly more space saving pump (Page 6 paragraph 78 of Breuer).

Hagerty and Breuer disclose and teach of the pump in claim 21.

Hagerty further teaches:

limitations from claim 26, wherein the pot includes radial intake openings (20);

limitations from claim 28, wherein the pot includes a radial outlet opening (21);

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Hagerty and Breuer disclose and teach of the pump in claims 21 and 28.

Breuer further teaches:

limitations from claims 29 and 30, wherein the pump (410, see FIG. 8)) includes a pressure switching valve (426), an outlet opening being sealable by the pressure switching valve so as to establish a switchable conveyor area (Page 8 paragraphs 96-98); (The combination of Hagerty and Breuer would place the control valve at the radial outlet of Hagerty); wherein the valve has an excess stroke spring (428);

limitations from claim 42, wherein the outlet opening of the switchable conveyor area opens into a channel (430), the channel opening directly via a path into an intake area of a second non-switchable conveyor area (Page 8 paragraph 98);

It would have been obvious to one having ordinary skill in the art of pumps at the time of the invention to provide a control valve as taught by Breuer in the pump taught by Hagerty in order to accurately control the output of pressurized fluid delivered to a source.

Claims 21, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandstadter (French Patent FR 2660221, herein 2660') in view of Breuer et al (US PGPub No. 2001/0012486 A1).

2660' teaches:

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limitations from claim 21, a pump comprising: a rotor (11) having vanes (17, 18) movable at least radially, the vanes having vane heads (see FIG. 2), the vanes and rotor defining a rotatable group; a sheet metal pot (6), the sheet metal pot defining a stroke profile (inside surface of the pot 6, see FIG. 2), the vane heads sliding tightly along the stroke profile, and the sheet metal pot also forming a first axial lateral plate (bottom of the pot) for the rotatable group; and an axial lateral lid (8) for the rotatable group opposite the first axial lateral plate;

Breuer teaches:

limitations from claims 28 and 29, wherein the pump includes a radial outlet opening (32) (410, see FIG. 1 and FIG. 8); and includes a pressure switching valve (426), an outlet opening being sealable by the pressure switching valve so as to establish a switchable conveyor area (Page 8 paragraphs 96-98);

It would have been obvious to one having ordinary skill in the art of pumps at the time of the invention to provide an outlet and control valve as taught by Breuer in the pump taught by 2660' in order to accurately control the output of pressurized fluid delivered to a source.

Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandstadter (French Patent FR 2660221, herein 2660') in view of Breuer et al (US PGPub No. 2001/0012486 A1) as applied to claims 21, 28 and 29 above, and in further view of Gui et al (US Patent No. 5,310,326).

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2660' and Breuer disclose and teach of the pump in claims 21, 28 and 29; 2660' discloses an axial outlet (15) with a non-return valve. However, neither 2660' nor Breuer specifically discloses the type of non-return valve used.

Gui et al teaches:

limitations from claims 34 and 35, an outlet opening (26, see FIG. 6) closable by a non-return reed valve (23) wherein the valve has a shape of a stroke profile curvature (see FIG. 2 of 2660'; the outlet port 15 follows the stroke profile of the pump; in order for the valve taught by Gui to properly cover the port, the valve must also follow the profile);

It would have been obvious to one having ordinary skill in the art of pumps at the time of the invention to provide the pump taught by 2660' and modified by Breuer with a non-return valve as taught by Gui in an axial outlet opening in order to prevent backflow into the pump.

Claims 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandstadter (French Patent FR 2660221, herein 2660') in view of Breuer et al (US PGPub No. 2001/0012486 A1) as applied to claims 21, 28 and 29 above, and in further view of Singleterry et al (US Patent No. 5,462,991).

2660' and Breuer disclose and teach of the pump in claims 21, 28 and 29.

Neither 2660' nor Breuer teaches using a plastic housing, but Singleterry does.

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Singleterry teaches:

limitations from claims 31-33, wherein a pump housing (10) is made from injection molded plastic (C. 1 Lines 42-43 and C. 2 Lines 60-62); Singleterry also teaches integrating inlet/outlet ports (12, 14) and vane pump casing parts (C. 3 Lines 27-37);

It would have been obvious to one having ordinary skill in the art of pumps at the time of the invention to use a plastic casing as taught by Singleterry with the pump and valves as taught by 2660' and modified by Breuer in order to produce a pump being less likely to contaminate a working fluid. Plastic housings are also known to produce lighter pumps.

Claims 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandstadter (French Patent FR 2660221, herein 2660') in view of Breuer et al (US PGPub No. 2001/0012486 A1) in view of Gui et al (US Patent No. 5,310,326) as applied to claims 21, 28, 29 and 34-35 above, and in further view of Singleterry et al (US Patent No. 5,462,991).

2660', Breuer and Gui disclose and teach of the pump and valve in claims 21, 28, 29 and 34-35.

Gui further teaches a journal (see the screw in FIG. 6) for mounting the valve (23), and a stroke end stop (25) for the valve; However, Gui does not teach that the journal is plastic or that the end stop is in a plastic casing.

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Singleterry teaches a plastic casing (C. 1 Lines 42-43 and C. 2 Lines 60-62) for a vane pump (10); the combination of 2660', Breuer, Gui and Singleterry would result in the valve components being integral with the plastic casing, and it would further be obvious to one of ordinary skill in the art to assemble the parts using a single material (plastic);

Claims 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandstadter (French Patent FR 2660221, herein 2660') in view of Stich et al (US Patent No. 4,538,974).

2660' discloses and teaches of the pump in claim 1.

2660' does not teach a cold start ring, but Stich does.

Stich teaches:

limitations from claims 38-40, wherein a vane pump is provided with a cold start ring (6) extending from the pot (2) and lid (1) of the pump casing; and the rotor has depressions (~14) for receiving the cold start ring (C. 3 Lines 1-36);

It would have been obvious to one having ordinary skill in the art of pumps at the time of the invention to provide a cold start ring and system as taught by Stich in the pump and pot as taught by 2660' in order to allow easier and more efficient start up.

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Claims 26, 28 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandstadter (French Patent FR 2660221, herein 2660') in view of Linder et al (US Patent No. 3,809,511).

2660' discloses and teaches of the pump in claim 1, but only teaches a single stroke pump.

Linder teaches a multi-stroke vane pump (see FIG. 1) with radial inlet openings (6) and discharge openings (8);

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the vane pump of 2660' with the vane multi-stroke vane pump arrangement of Linder in order to increase the discharge of the pump.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER BOBISH whose telephone number is (571)270-5289. The examiner can normally be reached on Monday through Thursday, 7:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571)272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher Bobish/
Examiner, Art Unit 3746

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

/C. B./
Examiner, Art Unit 3746